

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method process for automated tool management comprising the steps of:

receiving issuing a message in a selected protocol by a client application user, wherein said message comprises a request to perform an ~~a~~ selected action on a said tool, wherein said message identifies ~~comprises one or more of data and a pointer~~ pointing to an object in an equipment model of said tool, wherein said equipment model comprises a logical representation of said tool;

~~receiving said message via an object-oriented interprocess;~~

~~invoking a method of said object in response to said message pointer and said selected action, wherein if said message includes data, then passing said data to said method; and~~

~~transferring a return value to said client application user, wherein said return value is associated with said requested action and said data.~~

2. (Currently Amended) The method as recited in Claim 1 wherein said message further comprises data and wherein said step of invoking passes said data to said method further comprising the step of: extracting one or more of said data and said pointer of said received message.

3. (Currently Amended) The method process as recited in Claim 1, wherein if said request comprises a request for data and if said tool is an asynchronous source of said data and if said value associated with said requested action is current, then the method further comprises the steps of:

if valid information exists corresponding to said data, creating said return value based on said valid information;

if valid information does not exist corresponding to said data, creating said return value based on a database of said equipment model;

~~transferring said value to an application interface unit by said equipment model; wherein said application interface unit interfaces said user with said equipment model;~~

incorporating said return value into a return message to said client application user; and

transferring said return message in via said selected protocol object-oriented ~~interprocess communication~~ to said client application user in response to an address provided by said client application user.

4. (Currently Amended) The method process as recited in Claim 1, wherein if said request comprises a request for data and if said tool is a synchronous source of said data, then the method further comprises the steps of:

~~retrieving information said value from said tool by a tool interface unit, wherein said tool interface unit interfaces said tool with said equipment model;~~

~~creating said return value based on said information; and transferring said value to said equipment model~~

~~incorporating said return value into a return message to said client application; and~~

~~transferring said return message in said selected protocol to said client application in response to an address provided by said client application.~~

5. (Canceled)

6. (Currently Amended) The method process as recited in Claim 1, wherein if said request comprises a request for data and if said tool is not one of an asynchronous source of said data and a synchronous source of said data ~~or if said tool is an asynchronous source that does not supply a current value associated with said requested action~~ then the method further comprises the steps step of:

creating said return value based on ~~retrieving said value from~~ a database of said equipment model;

incorporating said return value into a return message to said client application;
and

transferring said return message in said selected protocol to said client application in response to an address provided by said client application.

7. (Canceled)

8. (Currently Amended) The method as recited in Claim 1, wherein said protocol ~~interprocess communication~~ comprises a protocol selected from the following: Component Object Model (COM), Remote Method Invocation(RMI), CORBA, Simple Object Access Protocol (SOAP), SECS, GEM, HyperText Markup Language (HTML), Extensible Markup Language (XML).

9. (Original) The method as recited in Claim 1, wherein said method of said object is invoked to remotely access and electronically diagnose said tool.

10. (Currently Amended) The method as recited in Claim 2, wherein said data in said message is notification data.

11. (Currently Amended) A computer program product having a computer readable medium having computer program logic recorded thereon for automated tool management, comprising:

programming operable for receiving issuing a message in a selected protocol by a client application user, wherein said message comprises a request to perform an a ~~selected~~ action on a said tool, wherein said message identifies ~~comprises one or more~~ of data and a pointer pointing to an object in an equipment model of said tool, wherein said equipment model comprises a logical representation of said tool;

~~programming operable for receiving said message via an object-oriented interprocess communication;~~

programming operable for invoking a method of said object in response to said message ~~pointer and said selected action, wherein if said message includes data, then passing said data to said method;~~ and

programming operable for transferring a return value to said client application user, wherein said return value is associated with said ~~requested action and said data.~~

12. (Currently Amended) The computer program product as recited in Claim 11 wherein said message comprises data and further comprising ~~comprises:~~ programming operable for passing said data to said method ~~extracting one or more of said data and said pointer of said received message.~~

13. (Currently Amended) The computer program product as recited in Claim 11, wherein if said request comprises a request for data and if said tool is an asynchronous source of said data ~~and if said value associated with said requested action is current,~~ then the computer program product further comprises:

if valid information exists corresponding to said data, programming operable for creating said return value based on said valid information;

if valid information does not exist corresponding to said data, programming operable for creating said return value based on a database of said equipment model;

~~programming operable for transferring said value to an application interface unit by said equipment model, wherein said application interface unit interfaces said user with said equipment model;~~

programming operable for incorporating said return value into a return message to said client application user; and

programming operable for transferring said return message in via said selected protocol ~~object-oriented interprocess communication~~ to said client application user in response to an address provided by said client application user.

14. (Currently Amended) The computer program product as recited in Claim 11, wherein if said request comprises a request for data and if said tool is a synchronous source of said data, then the computer program product method ~~steps of:~~

~~programming operable for retrieving information said value from said tool by a tool interface unit, wherein said tool interface unit interfaces said tool with said~~

~~equipment model; and programming operable for transferring said value to said equipment model~~

creating said return value based on said information;

incorporating said return value into a return message to said client application;

and

programming operable for transferring said return message in said selected protocol to said client application in response to an address provided by said client application.

15. (Canceled)

16. (Currently Amended) The computer program product as recited in Claim 11, wherein if said request comprises a request for data and if said tool is not one of an asynchronous source of said data and a synchronous source of said data ~~or if said tool is an asynchronous source that does not supply a current value associated with said requested action~~ then the computer program product further comprises:

programming operable for creating said return value based on ~~retrieving said value from~~ a database of said equipment model;

programming operable for incorporating said return value into a return message to said client application; and

programming operable for transferring said return message in said selected protocol to said client application in response to an address provided by said client application.

17. (Canceled)

18. (Currently Amended) The computer program product as recited in Claim 11, wherein said protocol ~~interprocess communication~~ comprises a protocol selected from the following: Component Object Model (COM), Remote Method Invocation(RMI), CORBA, Simple Object Access Protocol (SOAP), SECS, GEM, HyperText Markup Language (HTML), Extensible Markup Language (XML).

19. (Original) The computer program product as recited in Claim 11, wherein said method of said object is invoked to remotely access and electronically diagnose said tool.

20. (Currently Amended) The computer program product as recited in claim 12 44, wherein said data in said message is notification data.

21. (Currently Amended) A system, comprising: a processor; a memory unit storing a computer program operable for storing a computer program operable for automated tool management; and a bus system coupling the processor to the memory, wherein the computer program is operable for performing the following programming steps:

receiving issuing a message in a selected protocol by a client application user, wherein said message comprises a request to perform an a selected action on a said tool, wherein said message identifies ~~comprises one or more of data and a pointer pointing to~~ an object in an equipment model of said tool, wherein said equipment model comprises a logical representation of said tool;

~~receiving said message via an object-oriented interprocess;~~

invoking a method of said object in response to said message ~~pointer and said selected action~~, wherein if said message includes data, then ~~passing said data to said method~~; and

transferring a return value to said client application user, wherein said return value is associated with said ~~requested action and said data~~.

22. (Currently Amended) The system as recited in Claim 21, further characterized in that said message comprises data and the computer program is operable for passing said data to said method in said step of invoking ~~wherein the computer program is further operable for performing the following programming step: extracting one or more of said data and said pointer of said received message.~~

23. (Currently Amended) The system as recited in Claim 21, wherein if said request comprises a request for data and if said tool is an asynchronous source of said data and ~~if said value associated with said requested action is current~~, then the computer program is further operable for performing the following programming steps:

if valid information exists corresponding to said data, creating said return value based on said valid information;

if valid information does not exist corresponding to said data, creating said return value based on a database of said equipment model;

~~transferring said value to an application interface unit by said equipment model, wherein said application interface unit interfaces said user with said equipment model;~~

incorporating said return value into a return message to said client application user; and

transferring said return message in via said selected protocol object-oriented interprocess communication to said client application user in response to an address provided by said client application user.

24. (Currently Amended) The system as recited in Claim 21, wherein if said request comprises a request for data and if said tool is a synchronous source of said data, then the computer program is further operable for performing the following programming steps:

~~retrieving information said value from said tool by a tool interface unit, wherein said tool interface unit interfaces said tool with said equipment model;~~

~~creating said return value based on said information; and transferring said value to said equipment model~~

~~incorporating said return value into a return message to said client application; and~~

~~transferring said return message in said selected protocol to said client application in response to an address provided by said client application.~~

25. (Canceled)

26. (Currently Amended) The system as recited in Claim 21, wherein if said request comprises a request for data and if said tool is not one of an asynchronous source of said data and a synchronous source of said data ~~or if said tool is an asynchronous source that does not supply a current value associated with said requested action then~~

the computer program is further operable for performing the following programming steps step:

creating said return value based on retrieving said value from a database of said equipment model;

incorporating said return value into a return message to said client application;
and

transferring said return message in said selected protocol to said client application in response to an address provided by said client application.

27. (Canceled)

28. (Currently Amended) The system as recited in Claim 21, wherein said protocol ~~interprocess communication~~ comprises a protocol selected from the following: Component Object Model (COM), Remote Method Invocation(RMI), CORBA, Simple Object Access Protocol (SOAP), SECS, GEM, HyperText Markup Language (HTML), Extensible Markup Language (XML).

29. (Original) The system as recited in Claim 21, wherein said method of said object is invoked to remotely access and electronically diagnose said tool.

30. (Currently Amended) The system as recited in Claim 22 24, wherein said data in said message is notification data.

31. (Currently Amended) The method as recited in Claim 1 further A method for tool access control comprising the steps of:

~~receiving a message sent by a user via an object-oriented interprocess, wherein said message comprises a request to perform a selected action on a tool, wherein said message comprises a pointer pointing to an object in an equipment model of said tool;~~

generating a security wrapper layer, wherein said security wrapper layer provides a layer of protection to said equipment model; and

creating a security wrapper object in said security wrapper layer, wherein a pointer to a corresponding equipment model object is stored in said security wrapper object.

32. (Currently Amended) The method as recited in claim 31, wherein if said corresponding equipment model object is said object corresponding to said request then a pointer to said corresponding security wrapper object is transferred to said client application user.

33. (Original) The method as recited in claim 32 further comprising the step of: determining if said selected action on said tool can be performed in response to access rules stored in said corresponding security wrapper object.

34. (Original) The method as recited in claim 33, wherein if said selected action on said tool can be performed then the method further comprises the step of: invoking a method by said corresponding security wrapper object to perform said selected action.

35. (Currently Amended) The computer program product as recited in Claim 11 A ~~computer program product having a computer readable medium having computer program logic recorded thereon for tool access control~~ further comprising:

~~programming operable for receiving a message sent by a user via an objectoriented interprocess, wherein said message comprises a request to perform a selected action on a tool, wherein said message comprises a pointer pointing to an object in an equipment model of said tool;~~

programming operable for generating a security wrapper layer, wherein said security wrapper layer provides a layer of protection to said equipment model; and

programming operable for creating a security wrapper object in said security wrapper layer, wherein a pointer to a corresponding equipment model object is stored in said security wrapper object.

36. (Currently Amended) The computer program product as recited in claim 35, wherein if said corresponding equipment model object is said object corresponding to said request then a pointer to said corresponding security wrapper object is transferred to said client application user.

37. (Original) The computer program product as recited in claim 36 further comprises: programming operable for determining if said selected action on said tool

can be performed in response to access rules stored in said corresponding security wrapper object.

38. (Original) The computer program product as recited in claim 37, wherein if said selected action on said tool can be performed then the computer program product further comprises: programming operable for invoking a method by said corresponding security wrapper object to perform said requested action.

39. (Currently Amended) The system as recited in Claim 21, A system, comprising: a processor; a memory unit storing a computer program operable for storing a computer program operable for tool access control; and a bus system coupling the processor to the memory, wherein the computer program is further operable for performing the following programming steps:

~~receiving a message sent by a user via an object-oriented interprocess, wherein said message comprises a request to perform a selected action on a tool, wherein said message comprises a pointer pointing to an object in an equipment model of said tool;~~

generating a security wrapper layer, wherein said security wrapper layer provides a layer of protection to said equipment model; and

creating a security wrapper object in said security wrapper layer, wherein a pointer to a corresponding equipment model object is stored in said security wrapper object.

40. (Currently Amended) The system as recited in claim 39, wherein if said corresponding equipment model object is said object corresponding to said request then a pointer to said corresponding security wrapper object is transferred to said client application user.

41. (Original) The system as recited in claim 40, where the computer program is further operable for performing the following programming step: determining if said selected action on said tool can be performed in response to access rules stored in said corresponding security wrapper object.

42. (Currently Amended) The system method as recited in claim 41, wherein if said selected action on said tool can be performed then the computer program is further operable for performing the following programming step: invoking a method by said corresponding security wrapper object to perform said selected action.

43. (New) The method as recited in Claim 1, wherein said step of receiving a message and said step of transferring a value are performed by an application interface unit, wherein said application interface unit interfaces said client application with said equipment model.

44. (New) The method as recited in Claim 4, wherein said step of retrieving information from said tool is performed by a tool interface unit, wherein said tool interface unit interfaces said tool with said equipment model.

45. (New) The computer program product as recited in Claim 11, wherein said programming operable for receiving a message and said programming operable for transferring a value are implemented by an application interface unit, wherein said application interface unit interfaces said client application with said equipment model.

46. (New) The computer program product as recited in Claim 14, wherein said programming operable for retrieving information from said tool is implemented by a tool interface unit, wherein said tool interface unit interfaces said tool with said equipment model.

47. (New) The system as recited in Claim 21, wherein said step of receiving a message and said step of transferring a value are performed by an application interface unit, wherein said application interface unit interfaces said client application with said equipment model.

48. (New) The system as recited in Claim 24, wherein said step of retrieving information from said tool is performed by a tool interface unit, wherein said tool interface unit interfaces said tool with said equipment model.